

Future View of Satellite Meteorology

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President, WMO



WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

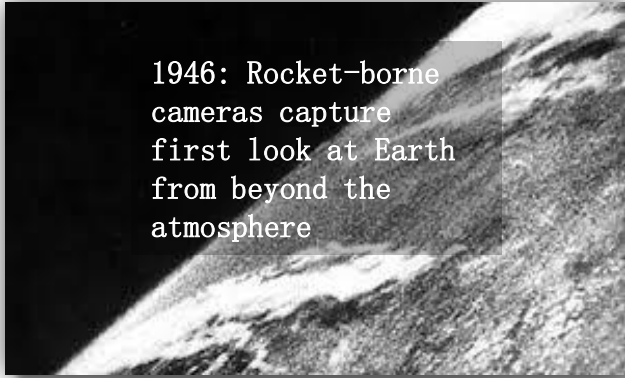
Keynote Address

NOAA Satellite Conference

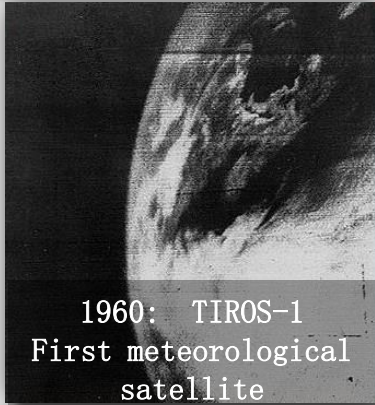
July 17th, 2017

Earth Observation ... humble beginnings

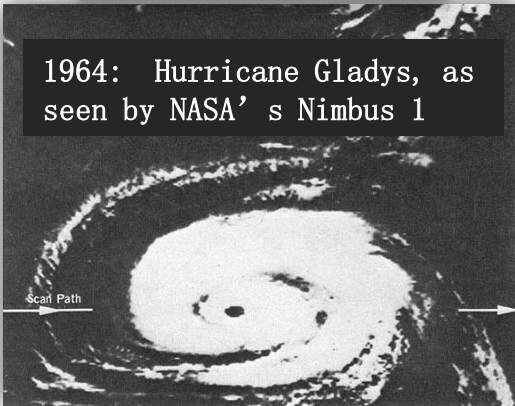
1946: Rocket-borne
cameras capture
first look at Earth
from beyond the
atmosphere



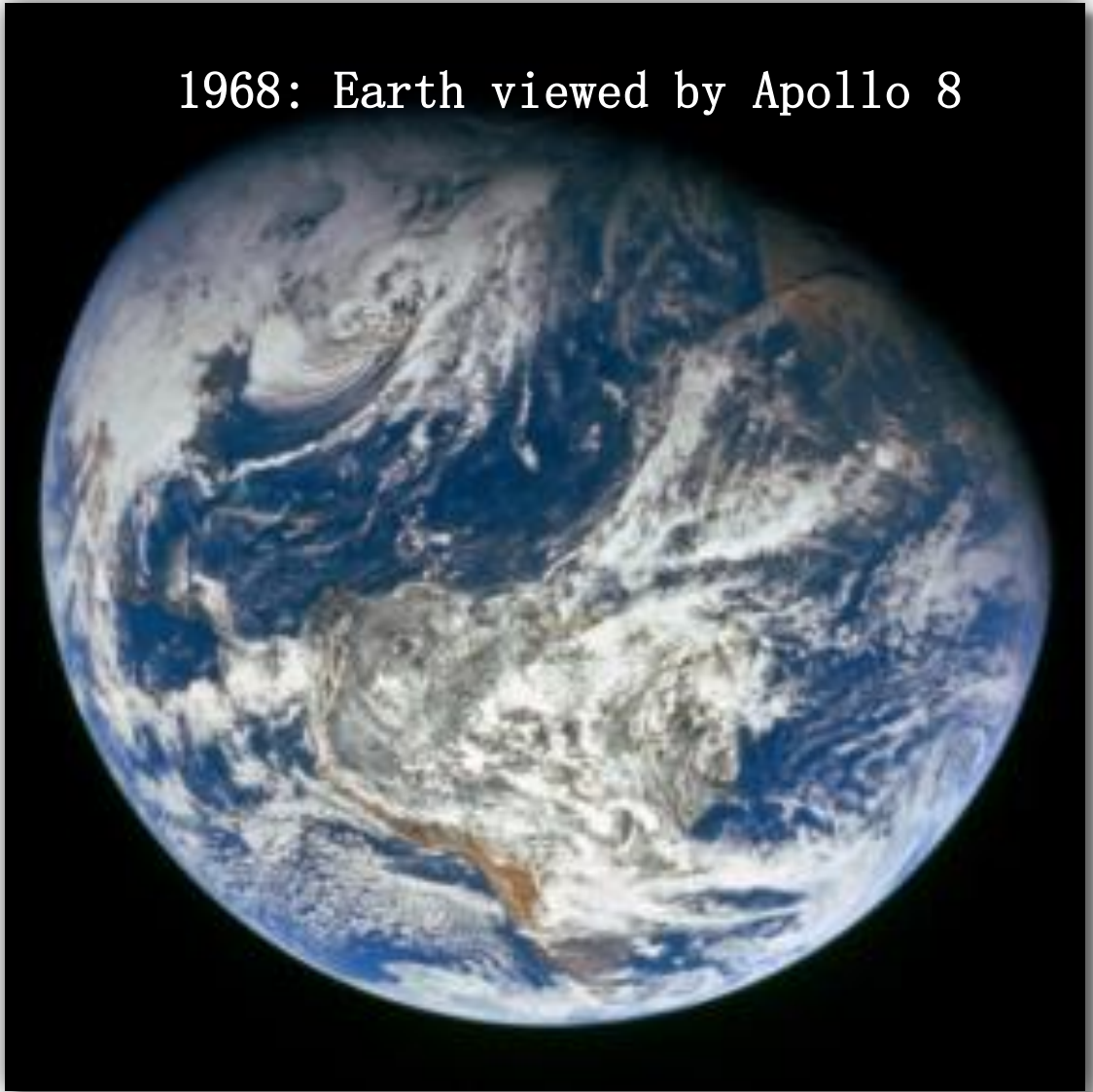
1960: TIROS-1
First meteorological
satellite



1964: Hurricane Gladys, as
seen by NASA's Nimbus 1



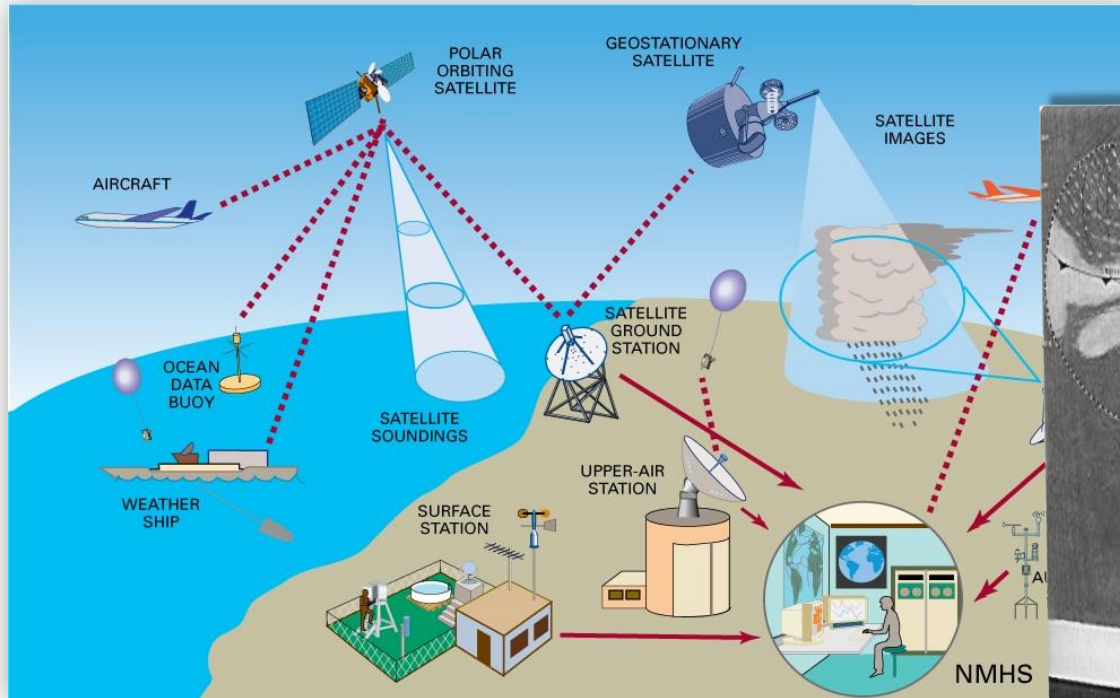
1968: Earth viewed by Apollo 8



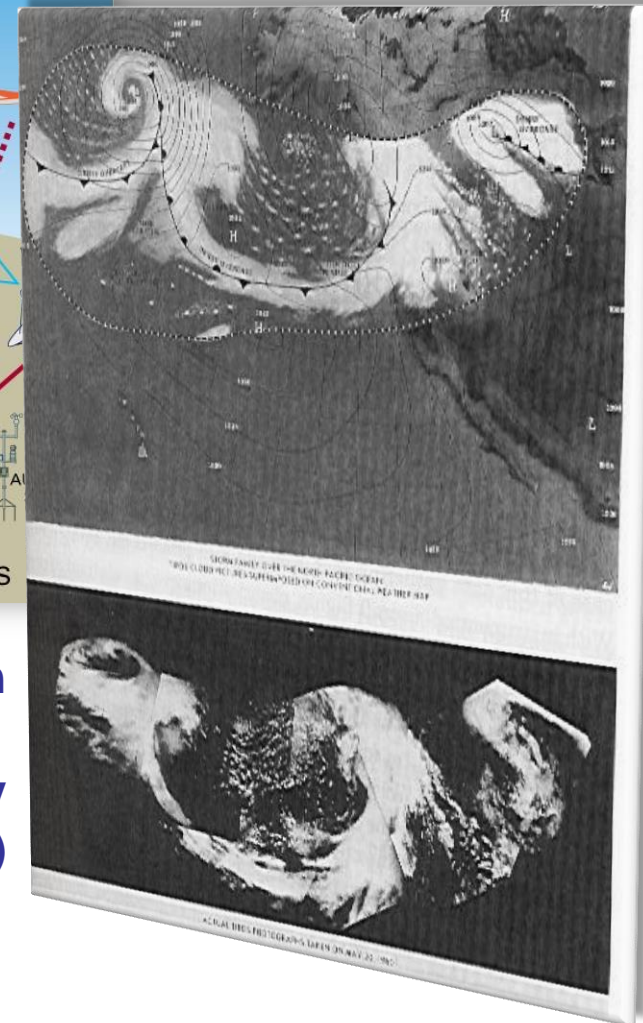


WORLD
METEOROLOGICAL
ORGANIZATION

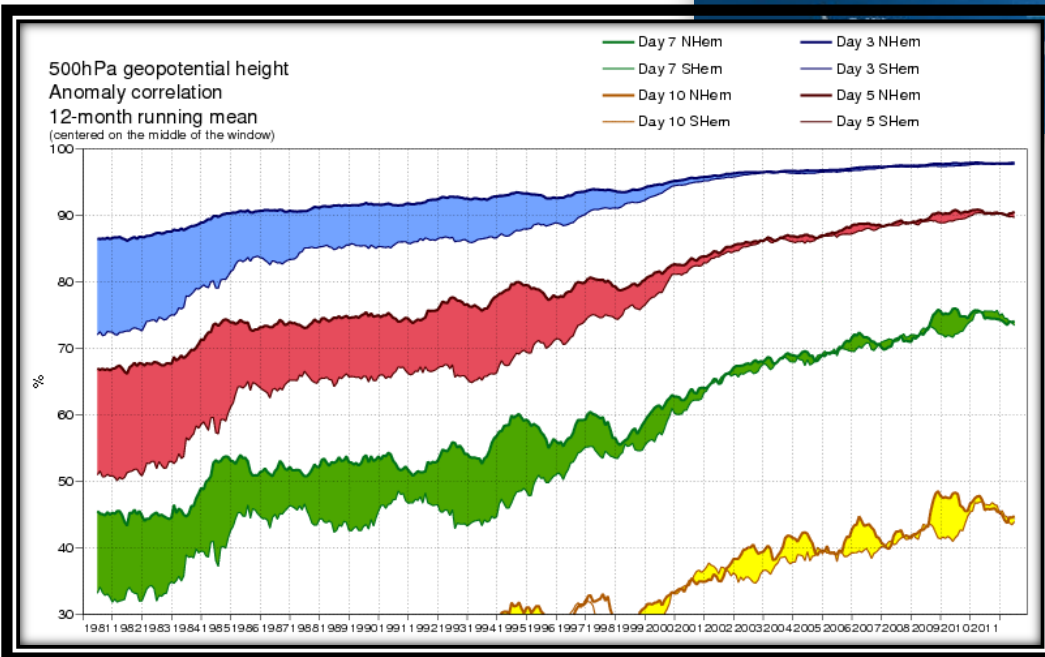
World Weather Watch



Weather map from 20 May 1960 (top) with
artist rendering of clouds from the TIROS-1
photographic-mosaic taken that same day
(bottom)

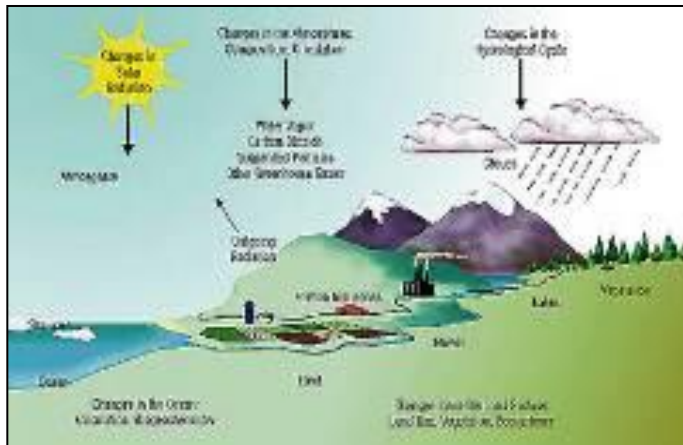


Satellite Data are critical to WMO's Future Weather Forecasting Architecture

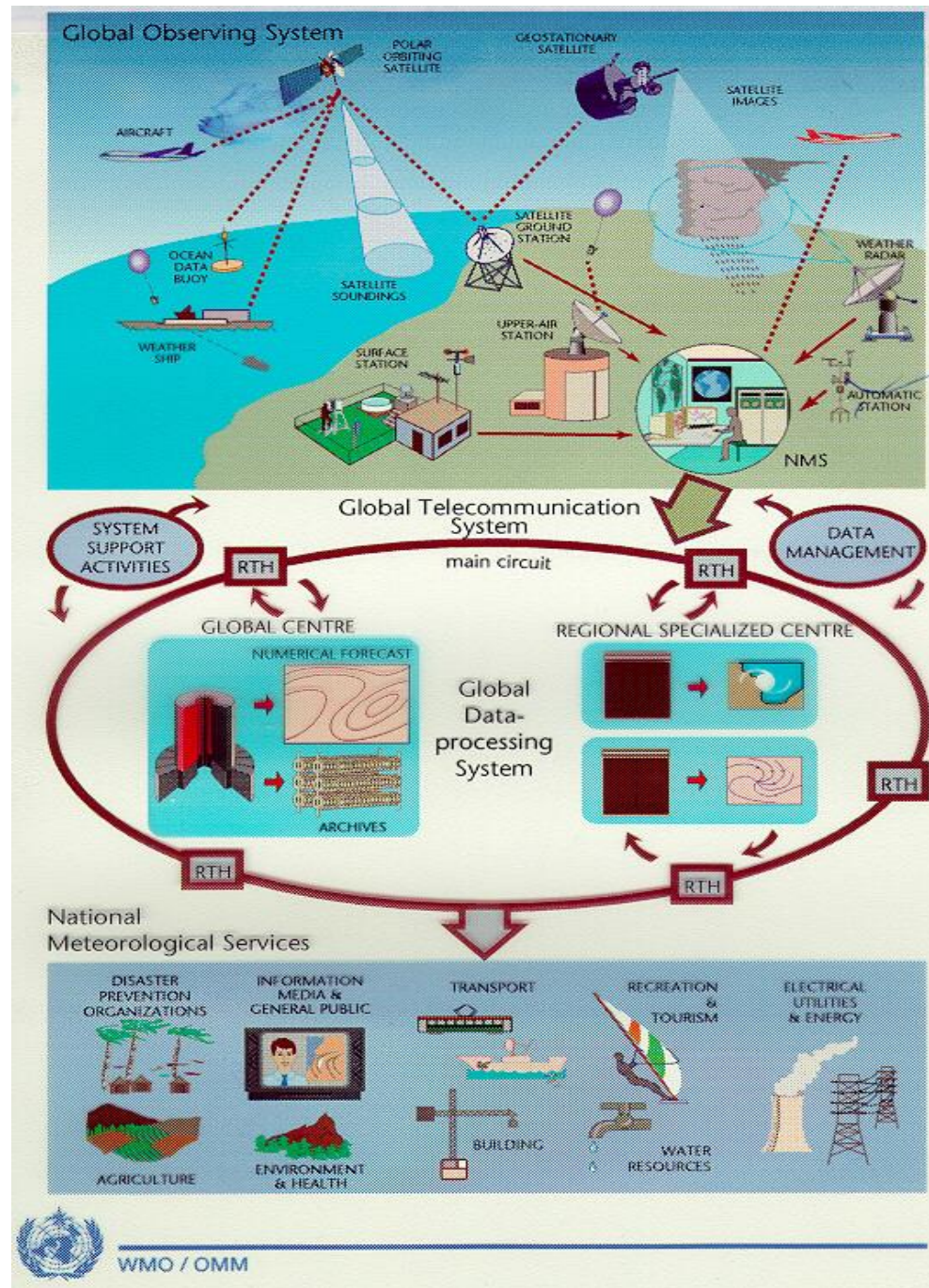


*Numerical Weather
Prediction performance
can be largely attributed to
the assimilation of
increased volumes of
satellite data*

Environmental Satellite information will be increasingly important for WMO's Planned GDPFS Architecture



Seamless weather and climate prediction is at the heart of WMO's vision for enhancing future forecast capability



\Drivers influencing the future of Global Observing Systems



2030

Agenda for
Disaster Risk
Reduction



2016

Paris Climate
Agreement



2030

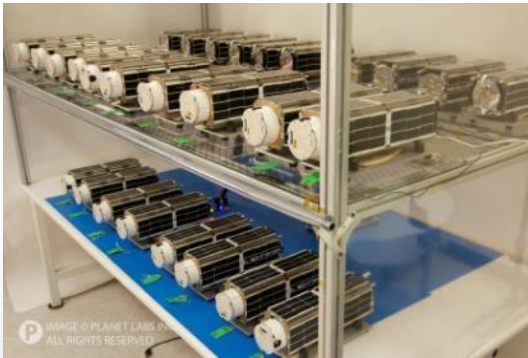
Agenda for
Sustainable
Development

Science and Technology

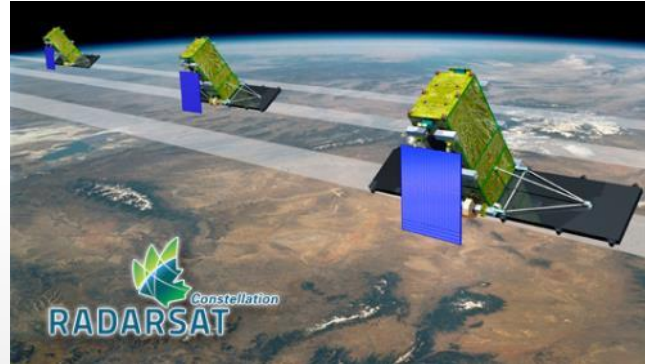
Commercialization

Trends in S&T and New Players

Cube / Nano / Small Sats



Constellations



Intelligent Satellites



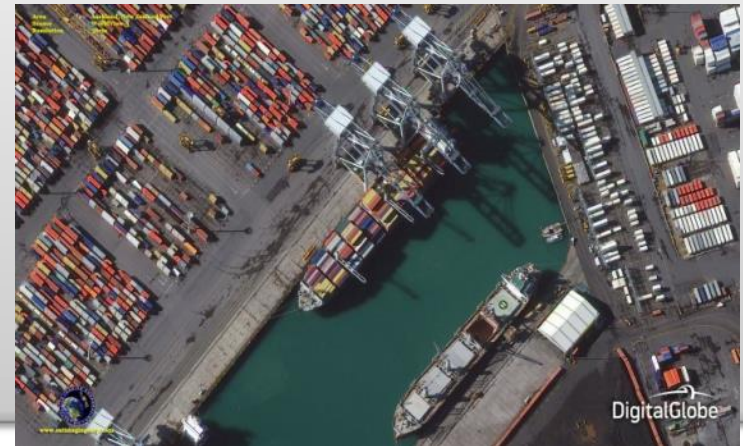
Data Cubes for Integrated analysis



Mobile applications / Citizen Science



Increasingly High Resolution (spatial, spectral, temporal)



WMO 2040 Vision for Global Observing



RESPOND TO USER NEEDS

- Respond to the needs of all WMO Members and Programmes for improved data products and services, for weather, water and climate and to enable more efficient and effective service delivery



INTEGRATION

- Integrate current GOS functionalities, which are intended primarily to support operational weather forecasting, with those of other applications
- Ensure efficient and robust systems that effectively underpin climate applications and related decision-making.



EXPANSION

- Expansion in both the user applications served and the variables observed, including in support of the production of ECVs
- Explore private sector innovations where efficiencies are offered



AUTOMATION

- Develop fully automatic observing systems, using new observing and information technologies, where it can be shown to be cost-effective
- Making Global Observations accessible to all



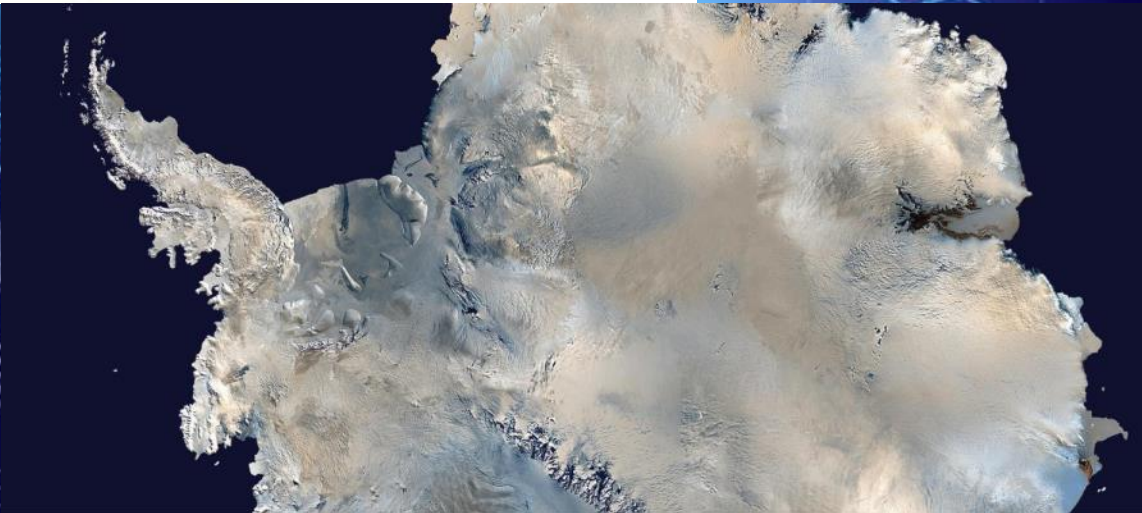
CONSISTENCY

- Increased standardization of instruments and observing methods; with improvements in calibration of observations and the provision of metadata, to ensure data consistency and traceability to absolute standards
- Ensuring respect for resolutions on free and open data

Constellation of Satellites



In Summary... It's a Global Enterprise



Satellite monitoring are essential to inform our understanding and actions with respect to reducing losses of life and property, resilience to climate risks and enhancing socioeconomic value from hydro-meteorological and climate services.



شكرا

谢谢

Thank you



**World
Meteorological
Organization**
Weather • Climate • Water

Gracias

Merci

Спасибо

